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January 21, 2019

Mr. John Robertson
Executive Officer
Central Coast Regional Water Quality Control Board
895 Aerovista Place, Suite 101
San Luis Obispo, CA 93401

Via Email to: AgNOI@waterboards.ca.gov

Re: Comments to Ag Order 4.0 Options Tables

Dear Mr. Robertson,

Thank you for the opportunity to provide comments on the Ag Order 4.0 Options Tables for the Irrigated Lands Regulatory Program. The Costa Family's farming operation spans multiple generations and has been located in the Salinas Valley since 1956. Through both organic and conventional production, our farm supports the four families of our owners and over 700 employees. Our farm consists of a total of 43 individual ranches that vary in size; some are contiguous and some are not. The smallest of these ranches is 5 acres, with several more being only 18 acres. The total number of blocks (or fields) on our farm is 433 with an average size of 13.3 acres each. Some of these blocks get broken down even further for multiple staggered plantings, and as we plant throughout the year our individual plantings average about 8 acres in size. We average about 2.2 crops per acre per year, with all of these crops having differing maturities (or days from planting to harvest). The fastest maturing crops that we grow are harvested approximately 29 days after planting while many others are harvested 50 to 65 days after planting. This leads to multiple crops being planted on a given acre of ground in a year. Currently, we raise 25 different crops with a total of over 1500 individual plantings in one year's time. This isn't a "plant in the spring/harvest in the fall" scenario. Our single biggest planting week of the year is the last week of July.

We provide these details about what we grow and how we grow it in an effort to provide insight for the Regional Board and its staff regarding the complexity of coastal cool season vegetable production.

Please find comments regarding Staff's proposed Matrix of Options below.

Table 1: Irrigation and Nutrient Management for Groundwater Protection

- As laid out in land sections, (640 acres), Groundwater Protection Areas commonly include portions of fields and portions of ranches. It would be impossible to report, phase, or regulate anything based on the current checker boarding of the areas overlaid on the Salinas Valley Map.
- Numeric limits: We are concerned that many proposed nutrient discharge limits will be unachievable without eliminating farming.
- Proposed N application limits:
 - A proposed application limit or prohibition for nitrogen application would be a very slippery slope for the Regional Board to put themselves on; the line between a prudent reduction in nitrogen application and an over reduction is a fine line, and crossing that line means crop failure and ZERO removal. Would an application limit that leads to ZERO removal due to crop loss mean the Regional Board is responsible for the crop loss and whatever portion of the nitrogen in the unharvested crop's residue is lost to leaching from rainfall the following winter?
 - We also question the Regional Board's legal authority to limit inputs (versus limiting discharges).
- Individual Discharge to Groundwater: This section seems to suggest that growers can measure the volume and nitrate concentration of water below the plant's root zone. Based on our research and attempts at implementation, we believe this requirement would be impossible to implement, manage, and accurately report with existing technologies.
- Incentives: It is unclear whether management practice implementation, particularly mitigation and/or treatments will be taken into account when assigning regulatory requirements.

Table 2: Irrigation and Nutrient Management for Surface Water Protection

- Numeric limits: Discharge limits that lead to application limits or prohibitions on applications may be unachievable without eliminating farming.
- Proposed N application limits: The line between a prudent reduction in nitrogen application and an over reduction is a fine line, and crossing that line means crop failure and ZERO removal. We would also question the Regional Board's legal authority to limit inputs (versus limiting discharges).
- Time schedules: Schedules proposed to achieve potential discharge limits should be reasonable. A proposed timeline to achieve any standard should be measured in decades; however, the sense of immediacy and urgency is leading to unreal expectations. We believe time schedules will need to be long term in order to be achieved. Otherwise, over-stringent numeric standards with unrealistic time schedules will set up growers for failure.
- Monitoring and Reporting: We have found through our Tier 3 program that it is impossible to measure continuous discharge flow rates and volume unless a person is physically present at the discharge site at the beginning and end of discharge. Furthermore, flow rates are not linear and fluctuate during the discharge and therefore it is impossible to accurately measure the varying volume and nutrient concentration throughout the duration of discharge. Allowing an estimate does not improve accuracy and we are concerned about the objectivity of regulation based on estimates.
- Incentives: It is unclear whether management practice implementation, particularly mitigation and/or treatments will be taken into account when assigning regulatory requirements.

Table 3: Pesticide Management for Surface Water and Groundwater Protection

- Numeric limits: Permit discharge limits that lead to application limits or prohibitions on applications may be unachievable without eliminating farming.
- Limits on pesticide application:
 - The limiting or prohibition of particular pesticides may lead to a crop failure and ZERO crop removal resulting in increased nitrogen loading.
 - We also question the Regional Board's legal authority to limit inputs (versus limiting discharges).
- Flow Rate Monitoring: Please see comments in the section above. In addition, any potential "snapshot" of volume, concentration, or turbidity would be just that – a snapshot – and it would not be reflective of the entire discharge because of the typical flow characteristics (starting slow, ramping up, and then tapering off until it stops). As flow varies, how does water quality vary throughout the duration of the discharge?
- Incentives:
 - In all of the discussions regarding discharges, management practices must be taken into account before determining whether a grower poses a water quality risk or where follow up monitoring must be required.
 - Substantial investment in infrastructure and/or operational practices must result in reduced requirements or frequency of requirements. Otherwise, there is no reason to make such investments.

Table 4: Sediment and Erosion Management for Surface Water Protection

- The proposal of no discharge of sediment due to erosion events is beyond unbelievable. Prohibiting sediment discharges due to erosion would not just set most growers up for failure, it would guarantee failure.
- Stormwater flows on our ranches tend to be variable with periodic high volumes. It is not uncommon to have a major portion of the region's annual rainfall occur in a period of only a few days. In Soledad we have seen half of our annual rainfall occur in 1.5 days. In fact, in the last 4 days (1/14/19 to 1/17/19) we have received 2.1", almost 25 % of our annual average total. The proposed draft options would lead someone to believe that everything in our environment can be controlled, and if it cannot be controlled the grower is at fault.
- Numeric limits for turbidity: A single turbidity standard without regard for background levels in diverse watersheds defies existing conditions on the Central Coast.
- Sources of Turbidity: It seems as though waterbodies impaired for turbidity are assumed to have irrigated lands as their sole contributor to that exceedance. This disregards other uses. However, that is not what we see on our properties. Two years ago we observed flow in Chualar Creek, at a point above any irrigated lands, for the first time in 19 years (no, that is not a misprint!) and the turbidity of that flow was so severe that any downstream sample would be guaranteed to exceed water quality standards without ever having any contribution from irrigated lands. Yet, the turbidity existed upstream of any irrigated land contributions.

- Individual Discharge to Surface Water: The same discussions (i.e., about the difficulties of measuring flow rates and snapshots in time not being reflective of flow conditions) applies here. We have not discovered a way to accurately extrapolate continuous flow rates, volumes, or water quality for purposes of estimation, and the technology for real time ongoing measurements is not designed for rural settings.
- Incentives: It is unclear whether implemented management practices, particularly mitigation and or treatments, will be taken into account when assigning regulatory requirements.

Table 5: Riparian Habitat Management for Water Quality Protection

- Numeric limits: The proposed buffer widths, setbacks, and native vegetative coverage continues to ignore surface slope as well as the direction of potential water runoff adjacent to the waterbody.
- Proposing such practices also ignores the incredibly increased risk to food safety associated with areas of this type in proximity to production while failing to consider whether there is any benefit to water quality. This risk is ENORMOUS. We also don't see the Water Board volunteering to assume the liability for what is being proposed to be required of us as growers.
- We continue to have to deal with beneficial uses that are not only outdated but inaccurate and disconnected from existing realities. As stated previously in our discussion about Table 4, Chualar Creek had no (zero) flows from riparian lands for a period of 19 years; yet, it is listed with aquatic life as a beneficial use! We are concerned that standards that are protective of aquatic life are too stringent, making them unachievable unless agriculture is completely eliminated from certain watersheds.
- The actual and existing Beneficial Use Designations in the Salinas River tributaries are not equal to the potential beneficial uses because of the reality of stream characteristics and/or hydro modification.
- The monitoring and reporting proposed creates yet again an additional requirement for new recordkeeping and reporting.

Below, we provide these general discussion points in addition to our preceding comments regarding the proposed Matrix of Options below.

Uncertainty

- It is difficult to build a program to meet Water Board expectations when the expectations of Staff and the Water Board change from year to year.
- It has not been uncommon in years past, to have buy-in or approval from a staff person in a particular area of discussion (or site visit), only to have the buy-in or approval change as staff changes.

Realities

- Real world in-field realities and exceptions do not align with the assumptions that Staff is using as their basis for creating regulations and mandates.
- There appears to be an assumption that "regulation drives technology". However, our cool season vegetable production is so complicated that no one technology will be a "silver bullet" (a quick solution to a difficult problem). Nothing about what we do is simple and there is no one simple engineering

solution. Because of our many short duration crops (as quickly as 29 days from planting to harvest, many are 50-65 days), we are usually not able to utilize predictive scheduling. Instead, we are continuously and rapidly reacting to external factors such as weather, labor, pests, markets, etc.

Potential Incentives

- Reduced reporting.
- Reduced monitoring frequency.
- Less reporting based on mitigations/treatments.
- Water or nutrient or toxicity unit trading programs.

Potential Disincentives

- Unachievable milestones and /or numeric standards or permit limits.
- Impractical or unrealistic expectations concerning what our in-house staff can do or what practices or measurements can be done on the land.
- Unequal and inconsistent enforcement (for example, some growers are still not enrolled while others are targeted for increased monitoring and reporting).
- Constantly changing requirements and lack of certainty.
- Not getting credit for work done/effort/investment/experimentation.
- Regulatory expectations that are not aligned with technical capacity or available technical expertise.

Irrigation

- Predictive scheduling is not as useful for irrigation management as knowing when to turn off irrigation water.
- We find collecting applied irrigation water information on a per crop basis is impossible. The majority of our irrigation sets involve multiple fields or multiple crops due to small size of our individual plantings and their frequency (as discussed in the introductory paragraph). Applied irrigation water on a per crop basis would have to be an estimate or allocation of the pumping volume (which would not be reliable or accurate).
- Monterey County Water Resources Agency requirements for Water Extraction Reports require growers to annually report monthly pumping totals.
- Deep moisture measurements are difficult for cool season vegetables. Moisture probes must reflect exactly what is going on in the field, but once they are in place tractor operations must avoid them (or the probes must be removed every time tractor operations occur, interrupting the collection of information). With over 1500 individual plantings per year this quickly would become a logistical nightmare. If tractor operations are avoiding the area of probe placement, then the information being collected is not reflective of the actual field conditions.

Food Safety

- Growers are caught in the middle between Water Board expectations, which often seems to be unrealistic, and well as the food safety expectations of clients and Federal and private auditors. Water

Board and Staff have demonstrated a lack of sensitivity to this issue. We have commented on this issue in greater detail in a separate and stand-alone letter.

Education

- Is valuable when it comes from a trusted source or respected neighbor.
- Is useful when it helps field staff better understand requirements.
- Will be disregarded if it is not practical or is proposed as a “one size fits all”.

Since Staff’s proposed Matrix of Options exceeds Tier 3 requirements, we feel it is necessary to discuss some of the lessons we have learned and our experiences implementing Tier 3 requirements under Ag. Waiver 2.0 and 3.0

Tier 3 Experiences

- Costs:
 - In 2018, our Tier 3 ranches (1,256.9 acres) had additional Tier 3 related costs of over \$114,000 (which is \$90.70 per acre) in addition to the other Ag Waiver compliance costs that all of our ranches have.
- Technical Capacity: Costa Farms is working with three qualified agronomists. In 2017, and again, in 2018, we assessed how many other consultants were available to assist. We contacted consultants in the San Joaquin Valley and on the Central Coast. We found only one other organization, in the Santa Maria area, that would affirmatively take on new clients. Consultants in the San Joaquin were not interested in working on the Central Coast. Other Central Coast consultants either were terminating their consulting businesses, or not taking on new clients, or only accepting clients on a limited basis. Having so few choices definitely increases our costs, leads to fewer innovative ideas, and is concerning for our future ability to comply with ever-increasing regulations.
- This individual surface water monitoring program is not a simple “grab sample” program. Due to the SWAMP-compatible quality assurance requirements, the sampling program exceeds the capabilities of our in-house staff. Therefore, we have to contract the sampling to third parties.
- Due to the stormwater sampling design we have not been able to find local samplers.
- We have hired Pacific EcoRisk to do our sampling. This is only possible because they have a contract with the City of Salinas, so they add our sampling events to their sampling route when they sample the City of Salinas.
 - Working with and scheduling the samplers requires significant coordination. We must determine if and when we will hit the rainfall triggers (greater than 1” rainfall in 24 hours), and call the samplers out. They must drive to our ranches from Davis (the location of their business), and sample our multiple locations along with any of their other clients (City of Salinas) within the prescribed sampling timeframe (must sample within 18 hours of peak flow).
- As a grower with two Tier 3 ranches currently, we have been required to perform substantial discharge monitoring if discharge existed. We have performed extensive analysis of potentially corresponding

applications and management practices regarding an exceedance in a sample result and we have yet to determine a direct correlation. It is not a black and white, cause and effect situation.

- Environmental Budgets
 - Many Tier 3 requirements are arbitrary. They are not supported by science or the reality of what's actually occurring at the site. Some proposed requirements on these ranches will have ZERO impact on water quality. Therefore, the money spent on Tier 3 compliance often has no nexus to actual water quality improvement.
 - Tier 3 ranches consume the bulk of our operation's environmental budgets. This is money that could be spent more productively.
 - Perhaps, our Tier 1 and Tier 2 ranches would be a more logical and prudent place to make improvements for the benefit of water quality; however, because of the visibility or regulatory requirements, we are forced to spend our environmental budget on our Tier 3 ranches.

Tier 3 Individual Surface Water Monitoring (Irrigation and Stormwater)

- The way the stormwater sampling program is currently written (must sample within 18 hours of peak flow) creates major safety issues for the sampling crew and liability for Costa.
- Some sites are not accessible after 1 inch of rainfall in 24 hours. Other sites require as much as a ½ mile walk to the sampling site. This includes sliding through mud while carrying sampling equipment.
- The samplers need to work in pairs which preclude the hiring of individual local samplers.
- Flow Duration:
 - At one point Staff demanded that we provide continuous flow measurements in addition to the Tier 3 sampling requirements. Staff's expectations are impractical because:
 - Continuous flow meters require electricity. Most outfalls do not have nearby electricity. Remote solar panel setups are theft targets and will be stolen very quickly.
 - Each outfall was going to take individual engineering because each pipe size varied.
 - If flows were constant, a flow measuring solution would have been easier, but because flows vary throughout any runoff duration it becomes complicated to design a system to measure continuous flow.

Water Quality Buffer Plan (WQBP):

- We continue to be frustrated by the implied need for Vegetated Buffers when there is no sheet flow from this particular ranch into the waterbody and rarely is there any irrigation tailwater flow.
- On the ranch where the WQBP is required, management of surface water flows is through pipes and containment basins.
- Chualar Creek rarely has surface water flow entering the ranch from the upstream riparian lands or from runoff associated with Costa's operation; thus, vegetated buffers will have little to no value.
- Vegetated Buffers create substantial food safety hazards according to food safety auditors.
- The emphasis on native vegetation has unlikely and uncertain water quality benefit

- Straw coverage on our vineyard roads is an approved practice leading to our vineyard's SIP certification. Yet, on our Tier 3 row crop ranch the expectation is still vegetated buffers, even though we continue to show how there is no sheet flow to the creek from the area in question.
- The existing order allows for "Functional Equivalents". However, staff has not been receptive to input regarding functional equivalents from watershed consultants who are experts in hydrology and restorative watershed functions.

Once again we must stress the existing complexity of numerous small acreage plantings of 25 crops grown on many small individual ranches and blocks during a near nonstop season of planting and harvesting which is typical of coastal cool season vegetable production.

An Issue of Critical Concern

When we compare existing Ag. Waiver 3.0 Tier 3 requirements side by side with the Staff's proposed matrix of options, it seems very clear to us that both Option 1 and Option 2 proposed requirements will likely exceed what we are currently dealing with regarding compliance requirements under the existing Tier 3, possibly by a substantial amount.

One of the most concerning points regarding these Tier 3 costs is that they do NOT reflect any management practice implementation, infrastructure changes, or other water quality improvements, etc. One could reasonably conclude (or assume) that the costs of compliance in the next ILRP permit will increase for several reasons:

- *It is not clear where sampling will occur*
- *It is not known which or how many additional constituents we may have to sample for*
- *The frequency of any additional monitoring is not known*
- *Much nitrogen removal research does not exist and will need to be conducted*
- *There are many details and numbers in the matrix occupied by "TBD" or "20XX"*

As mentioned earlier in this letter, the additional compliance costs per acre on our Tier 3 ranches in 2018 was \$90.70. If one were to project that additional cost over some, most, or all of the acreage in Region 3 the total would be staggering:

- *100,000 acres = \$9,070,000*
- *200,000 acres = \$18,140,000*
- *300,000 acres = \$27,210,000*
- *400,000 acres = \$36,280,000*

*It must be repeated that these are not dollars that are used for management practice implementation, infrastructure changes, or other water quality improvements. Those would require additional expenditures above and beyond the mentioned costs. This is not prudent, feasible, or even sustainable in our mind when you consider that these are our **annual costs** from the most recent year of our compliance (2018). These can't be brushed off as start-up costs from early years under the program; they are ongoing annual costs as experienced by an existing Tier 3 grower.*

We have shared our Tier 3 ranch compliance costs from 2018 under the existing Ag. Waiver 3.0 to show the additional burden and impact to all ranches going forward with the belief they will have similar or greater compliance requirements and costs under Ag Order 4.0 as compared to Tier 3 ranches under Ag Order 3.0.

Sincerely,

A handwritten signature in blue ink that reads "David Costa". The signature is fluid and cursive, with the first name "David" and last name "Costa" clearly distinguishable.

David Costa
Costa Farms Inc.